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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,786	10/24/2003	Guo-Xin Jin	2002B181B	2340
23455 7590 08/20/2007 EXXONMOBIL CHEMICAL COMPANY 5200 BAYWAY DRIVE P.O. BOX 2149 BAYTOWN, TX 77522-2149			EXAMINER MCDONOUGH, JAMES E	
			ART UNIT 1755	PAPER NUMBER
			MAIL DATE 08/20/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/693,786	Applicant(s) JIN ET AL.	
	Examiner James E. McDonough	Art Unit 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-78 is/are pending in the application.
 4a) Of the above claim(s) 1-4, 7-11, 14-22, 30-43 and 67-78 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12, 13, 23-29, 44-66 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants arguments page 11, paragraph 3, in the reply filed 8/13/2007, with regards to the specification is persuasive, therefore the objections to the specification have been withdrawn.

Applicants argument page 11, paragraph 5, with respect to claims 30-33 are found persuasive, and have been withdrawn.

Applicants arguments page 11, paragraph 4, with respect to claims 20, 24, and 30, because they have been withdrawn is not fully correct, because claim 24 remains, however, the required corrections appear to have been made to claim 24, therefore, this objection has been withdrawn.

Original Rejection

Claims 1-4, 7-16, 20, 24-29 and 34-78 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Schertl et al., USP 5,770,755 (hereafter referred to as Schertl).

Schertl discloses a polymeric metallocene catalyst composition made using a combination of a metallocene having a polymerizable side group and an olefin (abstract; col. 1, 1. 60 to col. 2, 1. 26; col. 3, 1. 8-50; col. 4, 1. 35-67; col. 6, 1. 25-35; examples).

Schertl lacks disclosure that the composition is made by polymerizing the finished metallocene with or without the presence of the comonomer, instead disclosing making a polymeric cyclopentadienyl ligand first, then reacting this composition with a transition metal compound to make the polymeric metallocene.

However, the current claims are couched in product-by-process language, hence the finished product appears to be identical to that of the prior art. Since the prior art appears to describe and teach the invention as claimed on the basis of inherent property characteristics which either anticipate or render obvious the claimed invention, an alternative 102/103 rejection is deemed appropriate, and the burden of proof that it does or does not falls to applicants as in In re Best, 195 USPQ 430, 433 (CCPA 1977).

Claims 1-4, 7-16, 20 and 23-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schertl as cited above.

The disclosure of Schertl has been discussed above. Schertl lacks disclosure of more than one metallocene compound being in the polymerized catalyst product. However, such a modification is well within the skill of the routineer in the art. It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosure of Schertl with a reasonable expectation of obtaining a highly-useful polymeric catalyst compound with the expected benefit of the catalyst not fouling the reactor.

Claims 1-4, 7-16, 20 and 24-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antberg et al., USP 5,169,818 (hereafter referred to as Antberg).

Antberg discloses a polymeric metallocene compound having as comonomer an olefin, the composition being made by copolymerizing metallocenes with olefinic side

groups and olefins using free radical initiators as the catalysts for polymerization (abstract; col. 2, 1. 1 to col. 6, 1. 35).

Antberg lacks disclosure of the use of titanium as the metal for the metallocenes. However, the metals Antberg uses are hafnium and zirconium, the other two members of group 4 of the periodic table. It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosure of Antberg with a reasonable expectation of obtaining a highly-useful olefin polymerization catalyst with the expected benefit of the catalyst being insoluble in ordinary organic solvents.

Claims 1-4, 7-16, 20 and 24-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antberg as cited above in view of Schertl as cited above.

The disclosure of Antberg has been discussed above. Antberg lacks disclosure of titanium as the metal in the metallocene compounds. However, Schertl teaches that titanium is useable as the metal in polymeric metallocenes (col. 6, 1. 25-28). It would have been obvious to one of ordinary skill in the art to apply the teaching of Schertl to the disclosure of Antberg with a reasonable expectation of obtaining a highly-useful olefin polymerization catalyst with the expected benefit of the catalyst being more economical to prepare as well as not fouling olefin polymerization reactors.

Claims 1-4, 7-16, 20 and 23-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antberg as cited above in view of Chabrand et al., USP 5,714,425 (hereafter referred to as Chabrand).

The disclosure of Antberg has been discussed above. Antberg lacks disclosure of the use of plural metallocene compounds in its polymeric metallocene catalyst. However, Chabrand teaches that such a modification is conventional in the art (col. 4, 1. 64 to col. 5, 1. 20). It would have been obvious to one of ordinary skill in the art to apply the teaching of Chabrand to the disclosure of Antberg with a reasonable expectation of obtaining a highly-useful olefin polymerization catalyst with the expected benefit of the polymers made using the catalysts having good processability.

Response to Arguments

Applicants argue that Schertl does not teach, show or suggest a bridging group having olefinic unsaturated ligands, then further that in the claims "J" is a heteroatom ligand. This is not persuasive for at least the following 1.) "J" is not a heteroatom ligand, "J" is a heteroatom connecting a ligand to a metal. 2.) On column 4, lines 20-62, under Bridged polymeric ligand, Schertl teaches bridge monocyclopentadienyl compounds with group 14-15 atoms connected by a bridging group that can possess olefinic unsaturation. 3.) The compounds listed by Schertl on column 4 have a vinyl linker, is this not an example of olefinic unsaturation? 4.) Applicants appear to have ignored or overlooked the reference of Schertl because the list of compounds given on column 4, that were specifically pointed out by the examiner in previous rejections, clearly meet the limitations of the instant invention, and applicants have not shown why this would not be the case, but have simply offered mere allegations that the reference does not read on the claims, with no supporting evidence.

Applicants argue against Antberg with basically the same argument as they use for Schertl. These are found not persuasive because in the abstract and column 2, line 1 to column 6, line 7, Antberg clearly disclose compound reading on the instant claim limitation such as cyclopentadienyl with group IVb metals, where the cyclopentadienyl has bridging groups containing olefinic unsaturation, and having a heteroatom donor selected from group 14.

Applicants argue the combination of Schertl and Antberg. These arguments are unpersuasive in light of above arguments.

Applicants argue the combination of Antberg in view of Chabrand. Applicants arguments amount to an allegation that Antberg does not teach a bifunctional metallocene and that Chabrand does not remedy this. This is found not persuasive for at least the following 1.) Chabrand does suggest the combination of more than one metallocene compound (column 3, lines 33-34), this was in the quoted part of the reference, and applicants are reminded that they have a responsibility to read the cited and applied references. 2.) Chabrand does provide extra motivation for the combination, contrary to applicants assertion that it does not, however, this is only to show further how a bifunctional metallocene is obvious, and therefore, not patentable over the prior art, but is not needed because Antberg also teaches this.

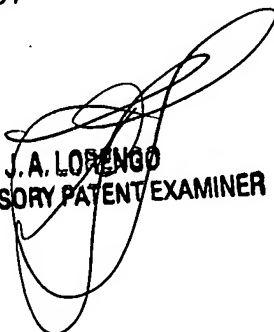
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James E. McDonough whose telephone number is (571)272-6398. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JEM 8/15/2007


J.A. LORENZO
SUPERVISORY PATENT EXAMINER